

Work Order ID 135260

Friday, August 07, 2015 3:31:59 PM

135260**U/R**ACCEPTABLE TO
SHIP A.P.
15.03.10
Page 1

Item ID: D119-646-043 Accept
Revision ID: U/R - URF15-560
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

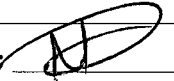
N900040100Setup Start ***NS1***Stop ***NS2***Start Date: 8/10/15 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 8/17/15 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan:  Date: 15-8-7 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3905-041	D								
IIN-D119-646	C								

100 0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-043
CHG 004

N/A MLC SEP 09 2015

DQA:

Date: 15/09/28

DARI
AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 15/09/22

Work Order update only ☐

Work Order: 135260		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No: 2119-646-043		Rework ☐		Skid-tube ☒	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No: 15-5363		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☒		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: 15.08.13		Step #: 110		QTY Effective: ①			MRB (QSI042) Approval A.P. 15.08.13		
Description Work Order Deviation				Disposition				Completed By 15-9-15	
DIM "5.3 REF" IS 5.120, SEE DIM (CB-5)				ACCEPTABLE DEVIATION. NEGLIGIBLE EFFECT ON STRENGTH OR FUNCTION. WILL NOT AFFECT BALANCE OF HELICOPTER IN WATER. POSITIVE MARGINS UNAFFECTED BY CHANGE				Lead hand / Supervisor Approval Verification DAS 9 9-89 1509-13	
								QC / QA Coordinator Approval DAS 9 9-89 1509-13	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	✓ Bending ☒	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☒	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	✓ Manufacturing Process ☒								
Misidentified ☐	Past Due ☐	OTHER :							

MA
D119-646-043 B135239

135260

- 1- Bend FWD end of tube using Bender 1 and bend prog D3905 FWD per dwg D3905
- 2- Cut FWD end of tube as per dwg D3905.
- 3- Cut AFT end of tube as per dwg D3905.
- 4- Buff out marks left from bending
- 5 -Install drill Jig DT9480 drill X-bolt spacer pilot holes using 3/16" drill first side only.
- 6- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.
- 7- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes usin DT9480
- 8- ~~Spot drill holes to section G using DT9493~~
- 9- Drill FWD cap holes using DT8215.

DP
15-10-11

Work Order ID 135260***135260***

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Friday, August 07, 2015 3:31:59 PM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00

110

Skidtubes

Skidtubes

Memo

0.00

1- Bend FWD end of tube using Bender 1 and bend prog D3905 FWD per dwg D3905

2- Cut FWD end of tube as per dwg D3905.

3- Cut AFT end of tube as per dwg D3905.

4- Buff out marks left from bending

5- Drill Aft cap pilot hole using DT8149 ***DO NOT OPEN TO FINISHED SIZE***

6 -Cleco DT8149 in position and install drill Jig DT_____drill X-bolt spacer pilot holes using 3/16" drill first side only.

7- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.

8- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9477

9- Spot drill holes to section G using #30 drill.

10- Drill FWD cap holes using DT8215.

11- Drill 1.87" and 3.74 holes using DT9494 locate from FWD cap hole. (verify measurement) as per dwg DEO D3905-B-1.

P.T.O.
first page.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
☐ OTHER : _____					

Work Order ID 135260***135260***

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Friday, August 07, 2015 3:31:59 PM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	12- Drill Tow ring hole using DT9494. Open to finished size.								
	13- Open FWD & AFT cap holes per dwg.								
	14- Deburr								
120	Chemical Conversion Coat per QSI005 4.1	0.00							
120									
HandFinish	Memo	0.00							
Hand Finishing									
130	QC3- Inspect Part Finish	0.00							
130									
QC	Memo	0.00							
Quality Control									

15-8-11

15-8-12

1 0 15-08-12

DAS
18
9-00

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 135260

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Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	DAS 18 9-89
140 *140* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				1	0	1508-12		08-8 81 SYD
150 *150* Skidtubes Skidtubes	Memo 1-Open crossbolt spacer holes to finished size ***DO NOT OPEN SPOT DRILLED HOLES IN SECTION G*** 2-Deburr crossbolt spacer holes as per Dwg D3905 and blow out chips from inside the tube	0.00 0.00								
160 *160* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				1	0	1508-13		DAS 18 9-89

 15-8-12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

D119-646-043 B 135260

1-Bond web in place as per Dwg D3905 & QSI 015.

A/R Sikaflex-291 132205

Sikaflex expire date: 16-2-12

Start: 18-8-12 Time: 9:30

Finish: _____ Time: _____

***** (Adhere for 12 hours) *****

2--Bend AFT end of tube using CNC Bender 1 and bend prog. D3905 AFT as per dwg D3905. Install drop pins in crossbolt spacer holes to maintain web position.

H-5.13"

15-12-13

3- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.

4- Drill Tow ring hole using DT9494. Open to finished size.

5- Open FWD & AFT cap holes per dwg.

6-Open crossbolt spacer holes to finished size ***DO NOT OPEN SPOT DRILLED HOLES IN SECTION G***

7-Deburr crossbolt spacer holes as per Dwg D3905 and blow out chips from inside the tube

8- Deburr

9- Buff out marks left from bending.

10- Open holes of section G using DT9493 open to finished size.

*****VERIFY DIMENSIONS*****

15-8-13

Work Order ID 135260

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135260

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Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170

170

Skid tubes

Skid tubes

Memo

0.00

1-Bond web in place as per Dwg D3905 & QST015.

A/RSikaflex-291 132705

Sikaflex expire date: 10-2-12

Start: _____ Time: _____

Finish: _____ Time: _____

***** (Adhere for 12 hours) *****

2--Bend AFT end of tube using CNC Bender 1 and bend prog. D3905 AFT as per dwg D3905. Install drop pins in crossbolt spacer holes to maintain web position.

3- Buff out marks left from bending.

4- Open holes of section G (spot drilled holes) to finished size.

*****VERIFY DIMENSIONS*****

5- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.

180

180

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

DP 15-8-12

DP 15-8-13

DAS
18
0-00

BE
1 0 15-08-17

DQA:

Date: 15/09/28



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 15/09/08

Work Order update only

Work Order: 135260		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. 0119-646-043		Rework ☒		Skid-tube ☒		Cross tube ☐		Water Jet ☐		Engineering ☐	
NCR No. 15-5305		Scrap ☐		Machining ☐		Small Fab ☐		Prod. Eng. Coord. ☐		Quality ☐	
		Use-as-is ☐		Thermoforming ☐		Finishing ☐		Rec/Store/Packaging ☐		Other ☐	
		Suspected Unapproved ☐		Large Fab ☐		Composite ☐		Supplier ☐			
Date: 15.08.13		Step #: 10		QTY Effective: 1509-15				MRB (QS1042) Approval A.P. 15.08.13			
Description Work Order Deviation				Disposition							
SEE (AS-6) RELIEF FOR INSERT IS 0.190" A.P. WAS 0.060" MAX				ACCEPTABLE, ENGINEERING ERROR. CLEARANCE REQUIRED FOR NEW DS101-5 CREATE PAR FOR ISSUE				Completed By 15-8-24			
								Lead hand / Supervisor Approval Verification DAS 9 9-89 1509-15			
								QC / QA Coordinator Approval DAS 9 9-89 1509-15			
Root Cause				FAULT CATEGORY							
Environment ☐ No Re-verification ☐ Design ☒ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ ** Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐				Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Bending ☐ Set-up ☐ Folio/Program ☐ Outside Dimensions ☐ Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance ☐ Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect ☐ Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Part Lost/Missing ☐ Cuffs ☐ Contamination ☐ Out of Sequence ☐ Part Moved ☐ Crushing ☐ Countersink ☐ Off-set ☐ Drawing ☒ Heat Treat ☐ Cut Too Short ☐ Mislabeled ☐ Finish ☐ Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Misread ☐ Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center ☐ Turning Sequence ☐							
OTHER :											

Work Order ID 135260

Friday, August 07, 2015 3:31:59 PM

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Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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190

0.00

100

Skidtubes

Memo

0.00

NOTE: TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD
GROUND HANDLING FIXTURE, IF FIXTURE FITS WELL THEN
PROCEED. FIXTURE DT10091.

1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3905. Remember to
back drill each hole before welding the other side. Use aluminum rod
A/R Aluminum Rod m13562

2-Grind cross bolt welds flush as per Dwg D3905. Ensure no pin hole.

3-Counterbore 5/16" x 0.750" deep as per Dwg D3905.

4- Deburr & Scribe batch # on Aft end of tube.

200

QC5- Inspect part completeness to step on W/O

0.00

200

QC

Quality Control

Memo

0.00

TEST FIT USING FIXTURE DT10091.

DAS
38
9-89

AUG 18 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only. ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 135260

Friday, August 07, 2015 3:31:59 PM

135260

Page 7

Item ID: D119-646-043
 Revision ID: U/R - URF15-560
 Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Accept

N900040100

Setup Start ***NS1***

Stop ***NS2***

Start Date: 8/10/15 Start Qty: 1.00 ***1***
 Required Date: 8/17/15 Req'd Qty: 1.00 ***1***

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC10- Inspect visual per QSI004- ground welds	0.00				1			DAS 38 9-89
210									
QC	Memo	0.00							
Quality Control									AUG 18 2015

220	Pressure Wash per QSI005 4.3	0.00				1			15-8-18
220									
HandFinish	Memo	0.00							
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								

230		0.00				1			DAS 41 9-89
230									
SprayPaint	Memo	0.00							
Spray Painting	PRIME AS PER DWG AND QSI 005 4.2 BATCH: <u>130992</u>								

PAINT WHITE AS PER DWG AND QSI 005 4.2
 BATCH: 132664

SEE ATTACHED FINISHING
 DEVIATION - NO PAINT
 ON SADDLE LOCATIONS

A.P.
 15.08.10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Work Order ID 135260

135260

Page 8

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Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC14- Inspect Spray Paint	0.00							
240									
QC	Memo	0.00							
Quality Control									
250		0.00							
250									
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3905.								
260	QC5- Inspect part completeness to step on W/O	0.00							
260									
QC	Memo	0.00							
Quality Control									

DAS
15
9-89

DAS
15
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
--	--	--	--	--	--

Date :	Step #:	QTY Effective :	MRB (QS1042) Approval
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Description Work Order Deviation	Disposition	Completed By
		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Work Order ID 135260

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135260

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Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

270

270

HandFinish

Hand Finishing

Memo

1-Install wearpads, gaskets and wearplates as per Dwg D3905. Put sikaflex in insert before installing bolts and washers
A/R Sikaflex-240/-291 M1132705
Sikaflex expire date: 16/05

2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: M1131349
RTU 548 M1131163 16/04

3 -Inspect for foreign objects as per QSI 024

4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R Sikaflex-240/-291 M1132705
Sikaflex expire date: 16/05

5- Install D5101-041 as per dwg by using DT10117

280

280

QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

1x / J 13/08/15

Pro →
Back of P.12

1x D3847-043 / 13126902
1x D3847-045 / 13135904
1x D3847-046 / 13135907

OAS

38

9-89

SEP 02 2015

INSTALL AN3CYA BOLTS IN
UNUSED WEARPLATE HOLES

A.P.
15.08.10

NOT REQUIRED

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					

Work Order ID 135260

135260

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Item ID: D119-646-043 Accept *N900040100* Setup Start *NS1*
 Revision ID: U/R - URF15-560 Stop *NS2*
 Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
 Start Date: 8/10/15 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 8/17/15 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
285	Wing Walk as per dwg QSI005 4.4 Batch	0.00							
285	HandFinish	0.00							
Hand Finishing	Memo								
286	QC3- Inspect Part Finish	0.00							
286	QC	0.00							
Quality Control	Memo								
290	Identify as per dwg & Stock Location: _____	0.00							
290	Packaging	0.00							
Packaging	Memo								

DAS
38
9-89

SEP 02 2015

DAS
36
9-89

20150908

SH

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Work Order ID 135260

Friday, August 07, 2015 3:31:59 PM

135260

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Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
300	QC21- Final Inspection - Work Order Release	0.00							
300 QC	Memo	0.00							
Quality Control									

MLS SEP 09 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

Picklist Print

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Work Order ID: 135260

135260

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC IPP revB
10.02.22 per PAR 09-043 EC verified by:DD IPP REVC 12.11.05
(DEOD3905-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 13.03.20 per
chg003 ECN13-534 DD verf:JLM
IPP REV:E 15.01.19 AS PER ECN-14-628 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN4C46A		Purchased		No		270	Each	345.0000	3	3			

AN4C46A

Bolt

**

all 15/08/15

Location	Loc Qty	Loc Code
FG	8	
123642	2	
m132169	6	
ST312A	310	
m129431	100	
m131856	70	
m132381	70	
m132522	70	
ST341	27	
131651	27	

x3

D5101-041

Manufactured No

270

Each

39.0000

3

3

D5101-041

Crossbolt Spacer Assembly

**

all 15/08/15

Location	Loc Qty	Loc Code
ST149	29	
128587	29	
ST155a	10	
130727	10	

B136070

x3

Pto -D

DQA:

Date: 15/09/20



QA Closed:

Date: 15/09/22

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: <u>135260</u> Part No. <u>D119-646-043</u> NCR No. <u>15-5364</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☒ Quality ☐ Other ☐		
Date: <u>15.08.26</u>	Step #: <u>270</u>	QTY Effective: <u>X1</u>	MRB (QSI042) Approval <u>A.P.</u> <u>15.08.26</u>	
Description Work Order Deviation		Disposition		
D5101-041 Crossbolt Spacer Assy does not fit in aft bend region.		Acceptable to relieve crossbolt spacer to allow for fit per DSI 9685 Attached. ACCEPTABLE TO OPEN Ø0.437 AFT FLOAT HOLES TO MAX Ø0.445 +0.000, -0.008 TO ALLOW FOR ALIGNMENT Touch up Alodine + Paint as per Q52005		
Completed By Lead hand / Supervisor Approval Verification DAS 9 9-89 <u>15.09.15</u>		QC / QA Coordinator Approval <u>8/15/8/26</u>		
Root Cause Environment ☐ Design ☒ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mis-labeled ☐ Fit/Function ☐ ☒ Misaligned/off center Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER :				

Picklist Print

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Work Order ID: 135260

135260

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

D5101-3 Manufactured No

270 Each

64.0000 6 6

Required Qty: 1.00

D5101-3

Insert

**

ll 1510962

Location

Loc Qty

Loc Code

ST147

64

127964

64

X6

D5101-5 Manufactured No

270 Each

64.0000 6 6

D5101-5

Insert

**

ll 1510962

Location

Loc Qty

Loc Code

ST147

64

127965

64

X3

MS21043-4 Purchased No

270 Each

754.0000 3 3

MS21043-4

Nut

**

ll 1510962

Location

Loc Qty

Loc Code

FG

40

104603

40

GA

193

m128798

193

ST273A

300

m132803

300

ST304

221

m128818

39

m131697

9

m132382

4

m132536

169

VZ

Friday, August 07, 2015 3:35:33 PM

Shop Packet Print

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																															
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval																																																																													
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: left;">Root Cause</th> <th colspan="4" style="text-align: left;">FAULT CATEGORY</th> </tr> </thead> <tbody> <tr> <td>Environment ☐</td> <td>No Re-verification ☐</td> <td>Pressure/Forced ☐</td> <td>Temperature/Cure ☐</td> <td>Power Loss/Surge ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> <td colspan="4" rowspan="2" style="text-align: center; vertical-align: top;"> OTHER : _____ </td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </tbody> </table>						Root Cause				FAULT CATEGORY				Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____				Misidentified ☐	Past Due ☐
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Friday, August 07, 2015 3:35:33 PM

Work Order ID: 135260

135260

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

D2500-1-190

Manufactured No

110

Each

10.0000

Start Qty: 1.00

Required Qty: 1.00

D2500-1-190

Ext'n - 'I' Beam Tube 4"

**

DP 15-8-11

Location

Loc Qty

Loc Code

LG002

10

120085

10

Each

135.0000

**

12

BE15-08-13

D2579

Manufactured No

D2579

Crossbolt Spacer

Location

Loc Qty

Loc Code

LG001

135

113785

24

123997

111

Each

5.0000

**

2

all 15/08/102

D2855-3

Manufactured No

D2855-3

Cap

Location

Loc Qty

Loc Code

FP001

5

127596

5

Each

53.0000

**

*x2 **

16 14

all 15/08/102

D3492-5

Manufactured No

D3492-5

Plug

Location

Loc Qty

Loc Code

FP

2

133396

2

B134875

x2

FP001

51

120153

15

133909

36

B135389

x2

NAS1149D0416J x6

as per C.P. & Gary

13

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐			

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Friday, August 07, 2015 3:35:34 PM

Work Order ID: 135260

135260

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

NAS1611-005

Purchased

No

270

Each

186.0000

Start Qty: 1.00
16

Required Qty: 1.00

NAS1611-005

O-RING

**

16 14

15/08/15

Location

Loc Qty

Loc Code

FP001

186

B133677

m129198

75

14

m129384

111

D3672-1

Manufactured

No

270

Each

902.0000

2

2

D3672-1

Washer, Phenolic

**

15/08/15

Location

Loc Qty

Loc Code

FG

10

85222

10

FP001

106

113581

106

ST049

783

17

112218

72

127322

211

134785

500

ST055

3

120116

3

D3681-1

Manufactured

No

190

Each

26.0000

8

8

D3681-1

Spacer

**

15/08/15

Location

Loc Qty

Loc Code

LG001

26

132711

1

133987

25

7

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		
OTHER : ☐					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

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Work Order ID: 135260

135260

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

D3672-3

Manufactured No

Each

599.0000

Start Qty: 1.00

12

Required Qty: 1.00

D3672-3

Washer, Phenolic

N/A 9/15/15

Location

Loc Qty

Loc Code

FG	100	
133083	100	
FP001	263	
132639	263	
ST049	221	
134449	221	
ST055	15	
129916	15	

D3683-3

Purchased No

250

Each

231.0000

12

12

D3683-3

Insert

N/A 9/15/15

Location

Loc Qty

Loc Code

FP001	34	
47805	34	
ST051	197	
47805	197	

ALS4-1032-130

AEIS4-1032-130 Purchased No

250

Each

601.0000

42

42

AI S4-1032-130

Rivnut

9/15/15

Location

Loc Qty

Loc Code

st549	601	
M132317	601	

M13295J

X4Z

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
--	--	--	--	--	--	--	--	--

Date : _____	Step #: _____	QTY Effective : _____	MRB (QSI042) Approval
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Description Work Order Deviation	Disposition	
		Completed By
		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____					
Misidentified ☐	Past Due ☐						

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Work Order ID: 135260

135260

* Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

AN3C5A Purchased No 270 Each 361.0000 44 44

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Bolt

**

11 13/08/15

Location	Loc Qty	Loc Code
FG	5	
122800	5	
ST338a	356	
M131803	8	
M132640	348	

x44

NAS1149C0332R Purchased No

Each 3,005.000

44

NAS1149C0332R

WASHER

**

11 13/08/15

Location	Loc Qty	Loc Code
FP001	2140	
m130325	2140	
GA	221	
m131618	221	
ST271	644	
m129390	72	
m132262	572	

M132930

x44

NAS1149C0463R Purchased No

Each 257.0000

12

NAS1149C0463R

Washer

**

N/A 15/8/15

Location	Loc Qty	Loc Code
FP001	77	
m127306	77	
ST271	180	
m128401	180	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

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Friday, August 07, 2015 3:35:34 PM

Work Order ID: 135260

135260

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

MS27039C4-08

Purchased

No

270

Each

264.0000

12

12

Start Qty: 1.00

Required Qty: 1.00

MS27039C4-08

SCREW

N/A 8/15/15

Location

Loc Qty

Loc Code

FP001

20

m126319

20

ST282

244

m126319

144

m128429

100

MS24694-C52

Purchased

No

Each

71.0000

2

MS24694-C52

SCREW

all 12/09/15

Location

Loc Qty

Loc Code

FP001

25

m127059

25

ST287

46

124308

46

XZ

*DAS
10
988*

D3847-043 / B126902 x1

D3847-045 / B133901 x1

D3847-049 / B135902 x1

} all 12/09/15

NAS 1149 D04163 / M131511 x6 all 12/09/15

DQA: _____ Date: _____



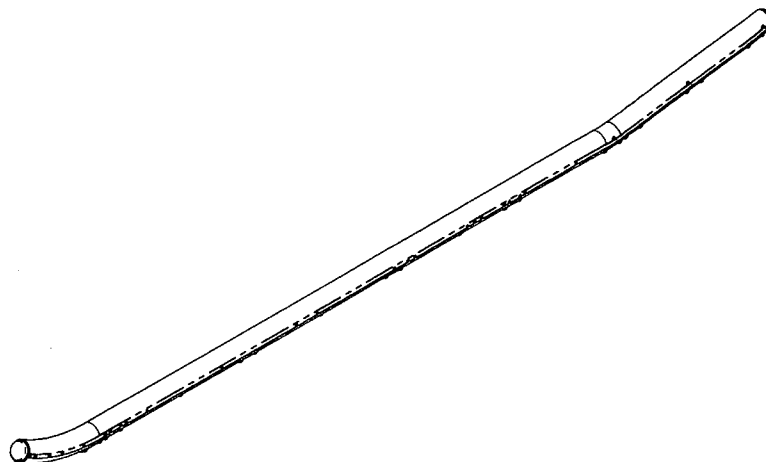
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval																	
Description Work Order Deviation			Disposition																		
			Completed By																		
			Lead hand / Supervisor Approval Verification																		
			QC / QA Coordinator Approval																		

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong		
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions		
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance		
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect		
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing		
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved		
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing		
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish		
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread		
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____					
Misidentified ☐	☐ Past Due						



D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-3 FLOAT WEB
PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3905-041 = 35.4 lbs
D3905-043 = 42.8 lbs
D3905-045 = 48.0 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) INSERT D3885-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE DT8932 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS. INSTALL AELS-1032-130 INTO D3905-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/-291.

UNDER REVIEW

15.04.30 URF15-560 AP

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2014 NOV 24

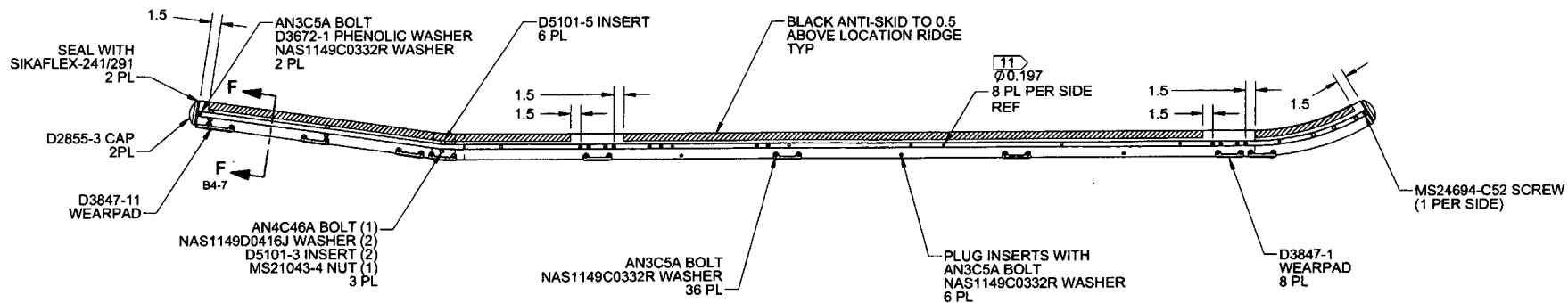
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Handwritten signature and number:
 135260

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3905-041	FLOAT SKIDTUBE ASSY WITH WEARPAD
2		X		D3905-043	FLOAT SKIDTUBE ASSY WITH WEARPLATE
3			X	D3905-045	FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12			16	D3411-3	WASHER
13	16	16		D3492-045	PLUG ASSY
14	2	2	2	D3672-1	PHENOLIC WASHER
15	8	8	8	D3681-1	SPACER
16	8	8	1	D3847-1	WEARPAD
17	1	1	1	D3847-11	WEARPAD
18		1		D3847-043	FWD WEARPLATE ASSY
19		1		D3847-045	CENTER WEARPLATE ASSY
20		1		D3847-049	AFT WEARPLATE ASSY
21			1	D3849-045	AFT WEARPLATE ASSY
22			1	D3849-047	FWD WEARPLATE ASSY
23	1	1	1	D3885-3	FLOAT WEB
24	12	12	12	D3903-1	SPACER
25			16	D3904-1	WASHER
26	1	1		D3905-11	FLOAT SKIDTUBE
27			1	D3905-13	FLOAT SKIDTUBE
28	6	6	6	D5101-3	INSERT
29	6	6	6	D5101-5	INSERT
30	3	3	3	D5101-041	CROSSBOLT SPACER ASSY
41	42	42	10	ALS4-1032-130	INSERT
42	44	44	12	AN3C5A	BOLT
43			4	AN3C46A	BOLT
44			4	AN3C50A	BOLT
45	3	3	3	AN4C46A	BOLT
46	44	44	8	NAS1149C0332R	WASHER (OR AN960C10L)
47	12	12	12	NAS1149C0463R	WASHER (OR AN960C416)
48	6	6	6	NAS1149D0416J	WASHER
49			8	MS21043-3	NUT
50	3	3	3	MS21043-4	NUT
51	2	2	2	MS24694-C52	SCREW

D	REVISED DIMENSIONS AND PROVIDED TOLERANCE TO SKIDTUBE OVERALL LENGTH PAGE 5-6 REVISED NOTE 2 AND NOTE 7 PAGE 1 (ZN B8, ZN A8-1) REVISED -041/043/045 DRAWING VIEWS. REVISED SECTION VIEW F-F (ZN B4-7). REVISED BOM REF. PART13-299 AND PART13-272	AK	14.08.08
C	(SHT 1 P/L, ZN C2-2, C2-3, C2-4) ITEM 13, QTY 2 WAS 4. ITEM 42 AND 45, QTY 44 WAS 46. ADD ITEM 49, MS24694-C52 WAS AN3C5A, D3672-1 AND NAS1149C0332R, (ZN C7-7) Ø0.201 CSK Ø0.385 X 100" WAS Ø0.204 THRU, (ZN A4-S, A4-6) ADD RELIEF INSTRUCTION, ADD ITEM 10, CROSS BOLT SPACER (ZN D4-1, C8-7, D8-7)	DB	13.02.21
B	REVISED PART LIST, ALS4-1032-130 WAS AELS-1032-130 (ZN A6-5, A5-6, C5-7, C3-7, A5-7). ADD DT8932 (ZN A8-1). D2855-3 WAS D2575 (ZN C8-2, C1-2, C8-3, C1-3, C8-4, C1-4). AN3C5A WAS AN3C4A (ZN C7-2, C1-2, C7-3, C1-3, C7-4, C1-4). D3849-047 WAS D3849-041 (ZN B3-4). ADD D3411-3 (ZN B3-4). ADD AN3C50A (ZN B3-4). Ø0.313 WAS Ø0.328 (B2-5, B2-6, C2-7, A8-7 & D7-8). REVISED NOTE 14 (ZN A8-7)	RF	09.06.30
D	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	ML	DART AEROSPACE USA, INC.	
DRAWN	RF	KENT, WA	
CHECKED	VS	DRAWING NO. D3905	
MFG. APPR.	DD	REV. D SHEET 1 OF 8	
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DE APPR.	DS	SCALE NTS	
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D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3905-11 SKIDTUBE)

UNDER REVIEW

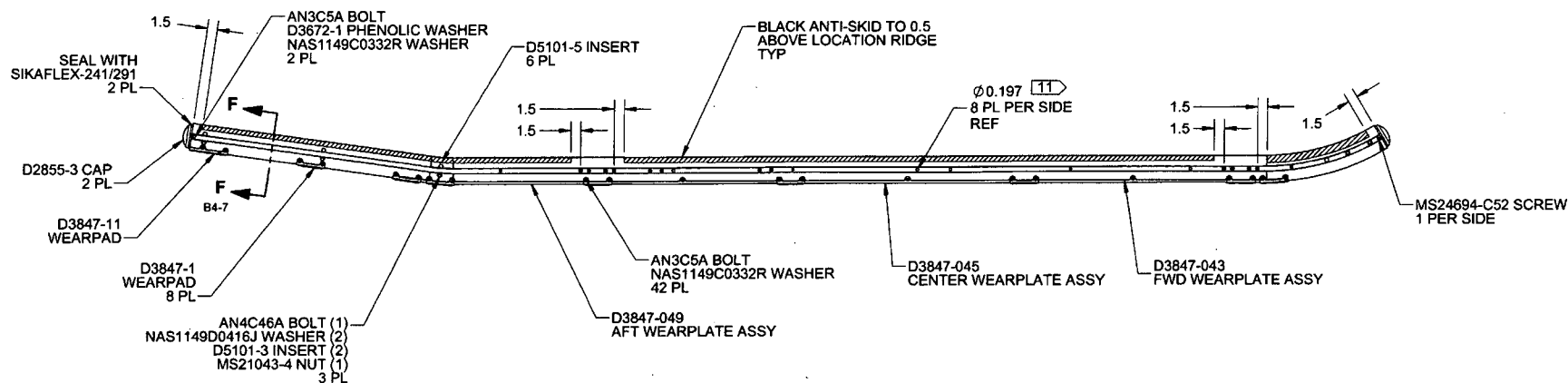
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D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE
(MAKE FROM D3905-11 SKIDTUBE)

UNDER REVIEW

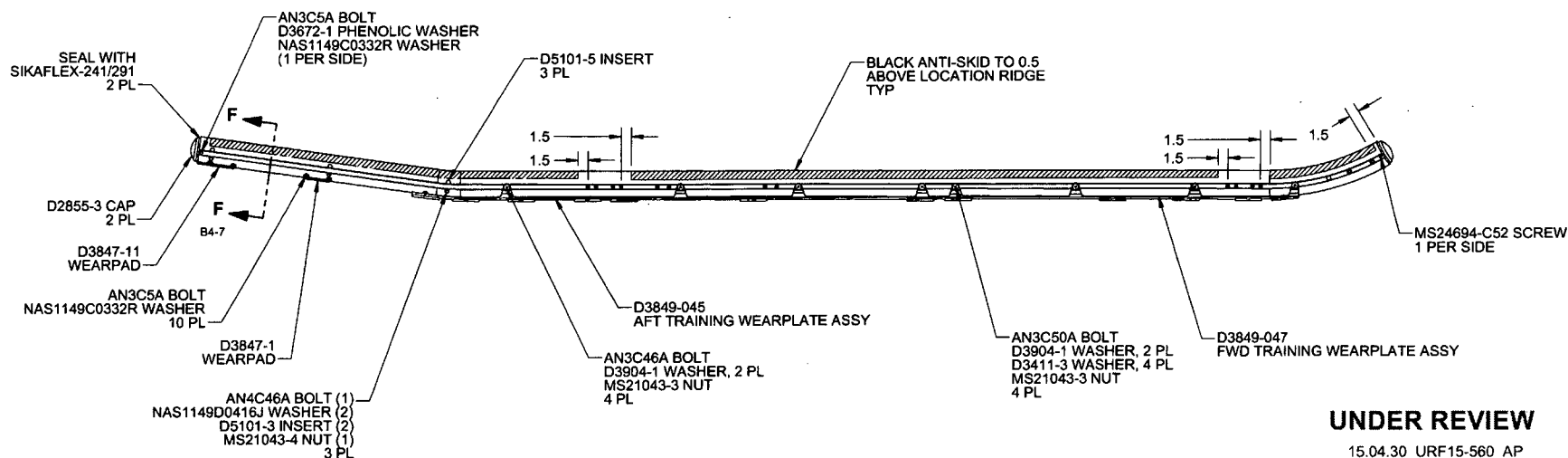
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D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3905-13 SKIDTUBE)

UNDER REVIEW

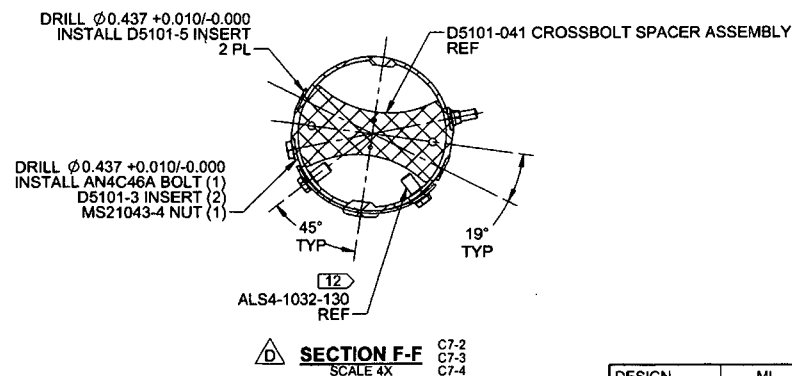
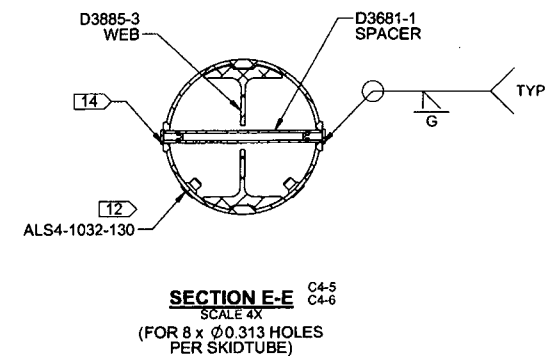
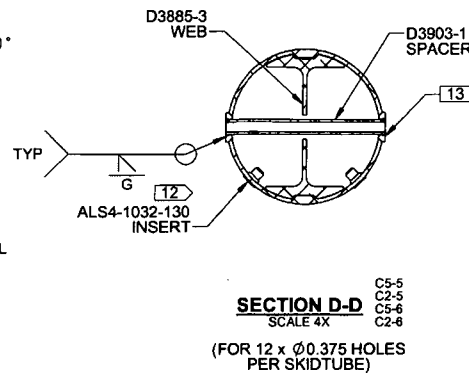
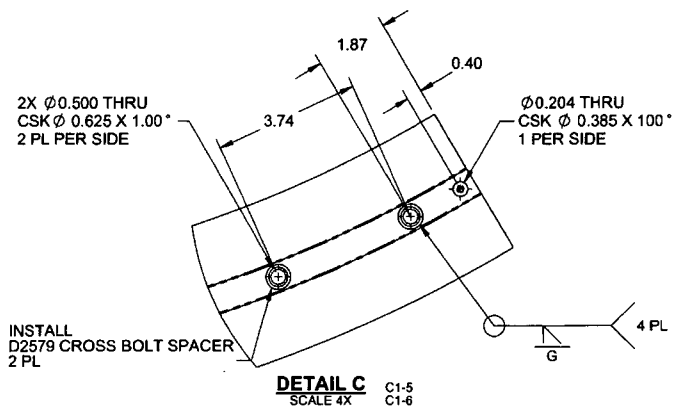
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NOTES:

- 13) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR $\phi 0.375$ HOLES ONLY:
- CHAMFER HOLES $\phi 0.475 \times 45^\circ$ (BOTH SIDES)
 - INSERT D3903-1 SPACER
 - WELD INTO PLACE AND GRIND FLUSH
 - C BORE TO 0.313×0.75 DEEP
 - DEBURR HOLES

- 14) AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR $\phi 0.313$ HOLES ONLY:
- CHAMFER HOLES $\phi 0.354 \times 45^\circ$ OR 0.050 DEEP $\times 45^\circ$ (BOTH SIDES)
 - INSERT D3681-1 SPACER
 - WELD INTO PLACE AND GRIND FLUSH
 - DEBURR HOLES

UNDER REVIEW

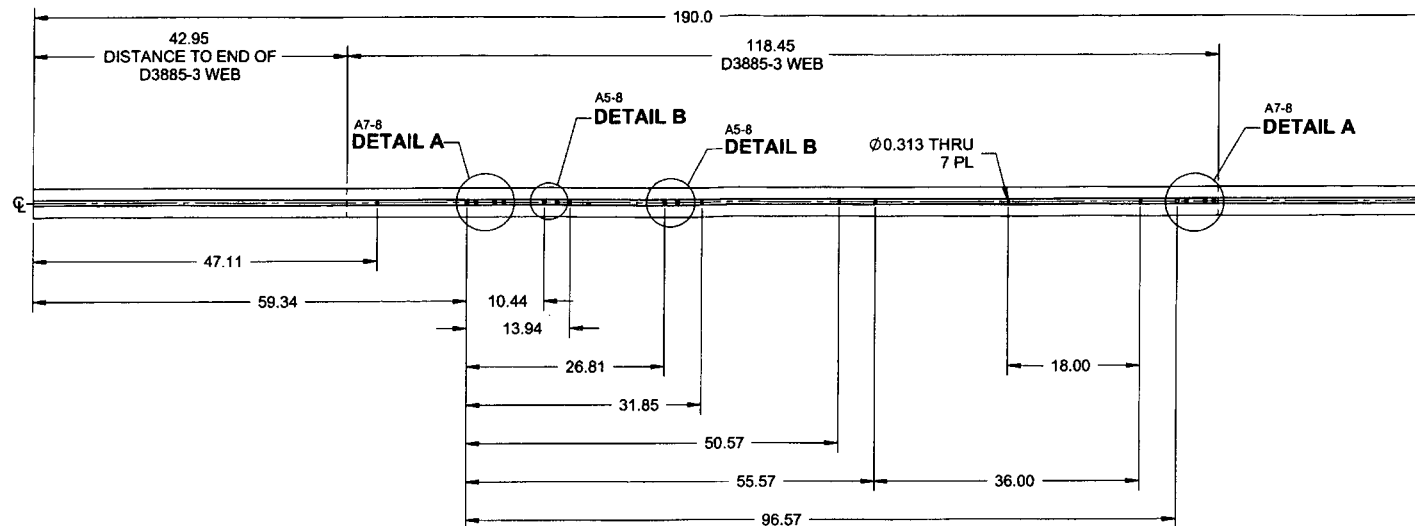
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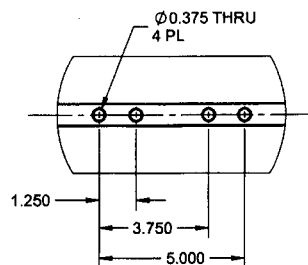
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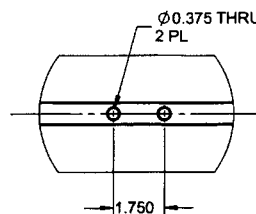
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D3905-1 TUBE
(MAKE FROM D2500-1-190 EXTRUSION)



DETAIL A
SCALE 4X
D6-8
D2-8



DETAIL B
SCALE 4X
D5-8
D4-8

UNDER REVIEW

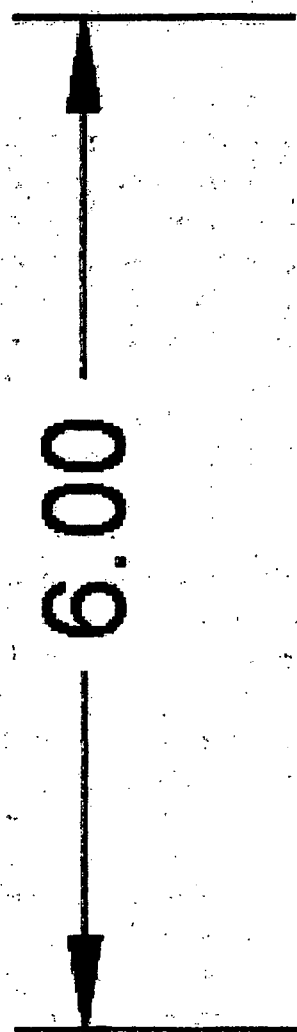
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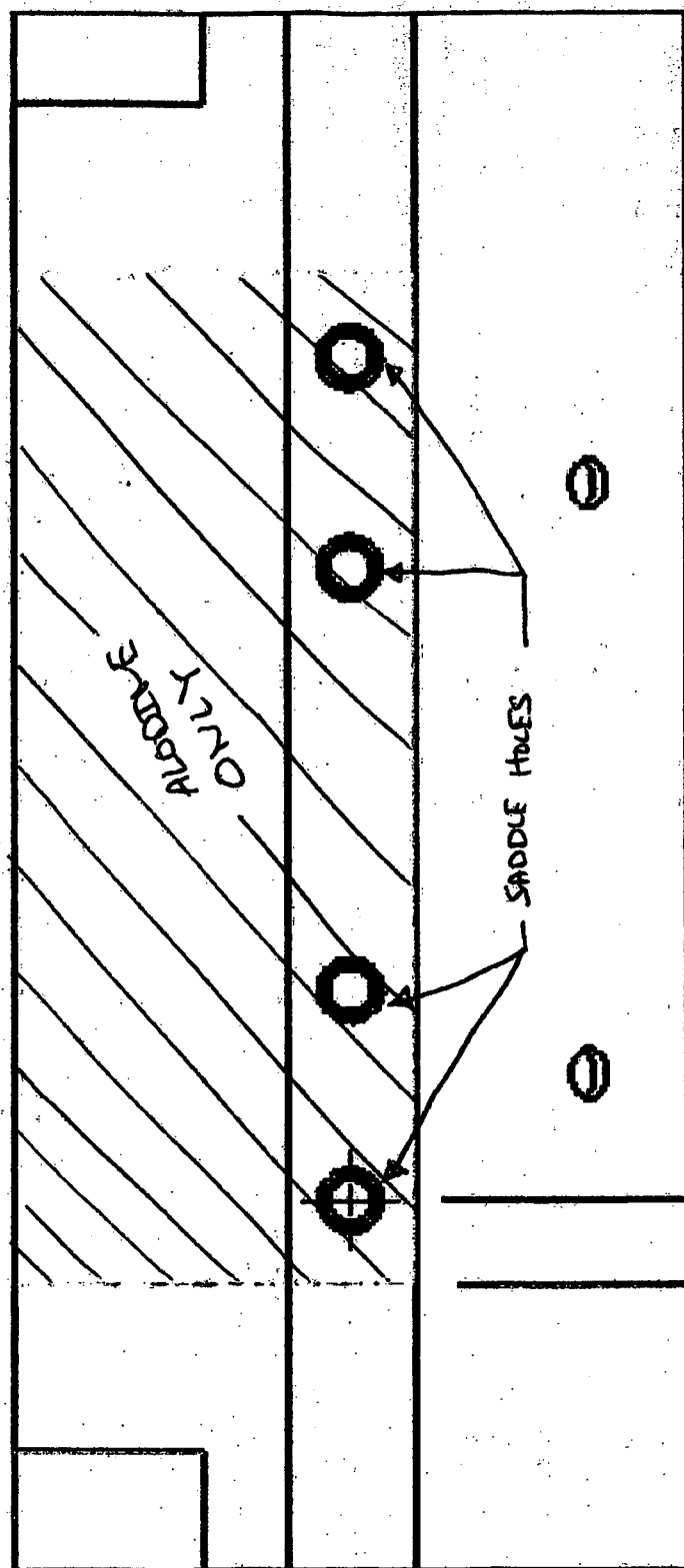
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R.P.
15.05.29



0.437

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-646 REV. B
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-646 REV. 1
REF FAA STC: SR02024SE
REF EASA STC: 10040294

1.0 PURPOSE:

Customers may have experienced spinning inserts on Dart D119-646-013/-014/-113/-114/-213/-214 float skid tubes. This DSI provides a repair for those spinning inserts.

2.0 INSTALLATION:

- 2.1 Remove AN4C6A Bolts securing the 604.0902 Float to the RH skid tube
- 2.2 Remove the 12 inserts from the skidtube extension.
- 2.3 Open the insert holes (12x) to 0.437" +0.010/-0.000. Deburr and alodine hole per MIL-DTL-5541
- 2.4 Remove AN3 bolts securing the D2855-3 Cap to the skidtube. Break/remove sealant between cap and skidtube and remove cap. Clean off residual sealant and inspect for corrosion damage per Dart ICA-D119-646 Chapter 5.
- 2.5 Using locally procured 1/4-20 UNC threaded rod attached to the D5101-041 Crossbolt Spacer, slide it into the skidtube.
- 2.6 Align the holes in the D5101-041 Crossbolt Spacer with the newly drilled holes in the skidtube. Some adjustment of the size of the spacer is permitted to fit it to the deepest set of holes.
- 2.7 Using the D5101-3 and D5101-5 inserts, secure the D5101-041 Crossbolt Spacer to the skidtube. Reference Figure 1. Remove the threaded rod. Torque inserts to 95-110 in.lbs (10-12 N-m).
- 2.8 Repeat steps 2.4-2.7 for the other 2 crossbolt spacer locations.
- 2.9 Reinstall D2855-3 Cap with AN3 bolts. Seal bolts with Sikaflex-241/-291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m). Apply a bead of Sikaflex -241/-291 or Proseal 890 or MIL-S-8802 sealant between the cap and the skidtube.
- 2.10 Reinstall the 604.0902 Float onto the skidtube using 3x AN4C46A Bolts per Figure 1.
- 2.11 Repeat steps 2.1-2.10 for the LH skidtube.

3.0 PARTS LIST:

Qty. -011	PART NUMBER	DESCRIPTION
X	DSI 9685-011	CROSSBOLT SPACER KIT
6	D5101-041	CROSSBOLT SPACER ASSEMBLY
12	D5101-3	INSERT
12	D5101-5	INSERT
6	AN4C46A	BOLT
6	MS21043-4	NUT
24	NAS11490D0416J	WASHER

4.0 WEIGHT AND BALANCE

Incorporating this DSI causes the following weight and balance changes

Installation	Weight	LONGITUDINAL		LATERAL	
		Arm	Moment	Arm	Moment
DSI 9685-011 CROSSBOLT SPACER KIT	1.5 lb 0.68 kg	208.0 in 5.3 m	312 in-lb 3.6 kg-m	0.0 in 0.0 m	0.0 in-lb 0.0 kg-m

A	NEW ISSUE	AK	14.07.30
REV.	DESCRIPTION	BY	DATE
DESIGN	AK	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AK		
CHECKED	HS	DRAWING NO. REV. A	
MFG. APPR.	JL	DSI 9685 SHEET 1 OF 2	
APPROVED		TITLE SCALE	
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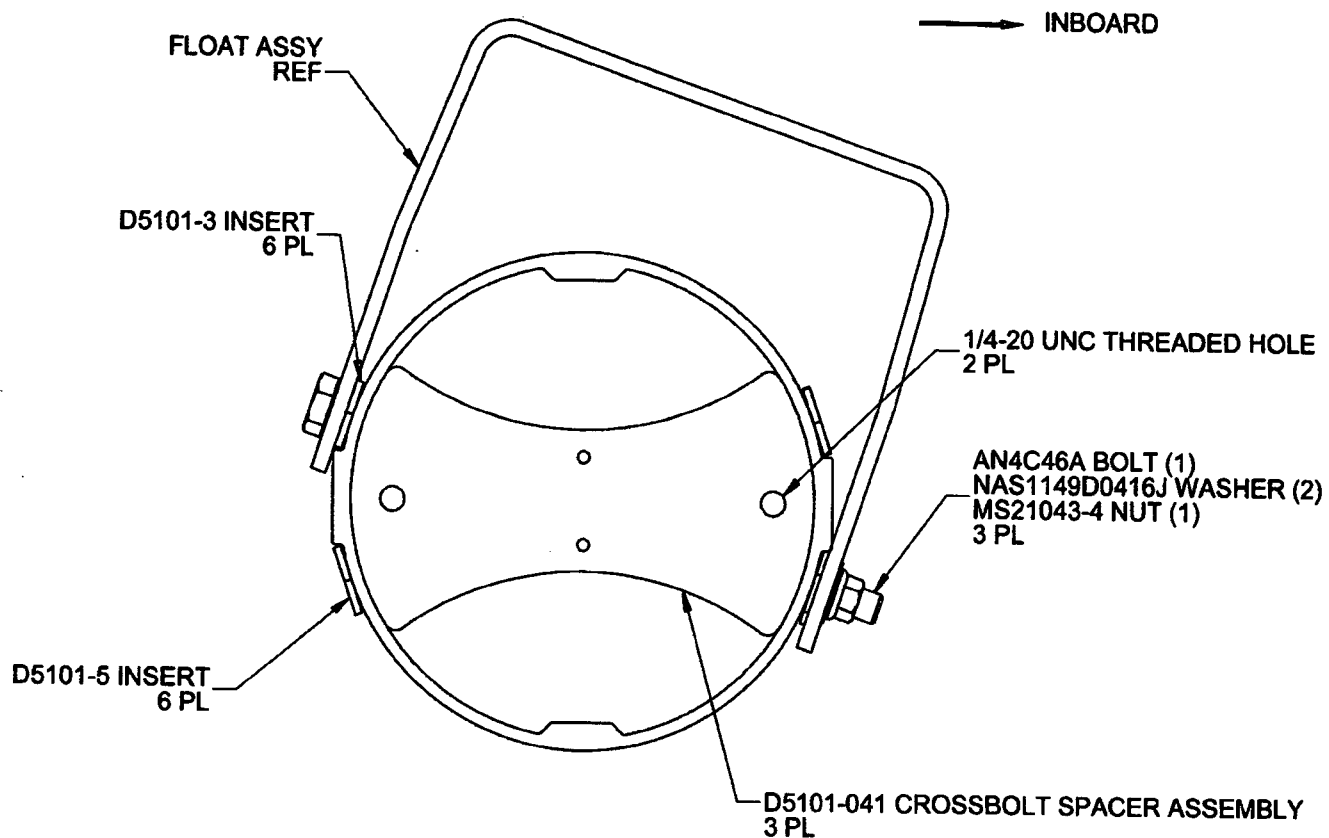


FIGURE 1: D5101-041 SPACER INSTALLATION

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CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	JL	DSI 9685	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CROSSBOLT SPACER KIT	NTS
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